

**Appendix C**  
**Data Summary**

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# Appendix C

## Data Summary Tables

### 1. C1. HUMAN HEALTH AND ECOLOGICAL BASELINE RISK ASSESSMENT TASKS

In general, the tasks associated with development of the HHRA and the ERA activities are as follows:

- Data compilation
- Data evaluation and estimation of exposure point concentrations
- Exposure assessment
- Toxicity assessment
- Risk characterization
- Uncertainty analysis.

Data computation and data evaluation and estimation of the contaminant concentration at the exposure point (i.e., exposure point concentration) are performed in the same manner for both the HHRA and ERA. These task are described in the following sections.

#### C-1.1 Data Compilation

An OU 10-04 database was established to support the OU 10-04 Remedial Investigation/Feasibility Study (RI/FS). A separate database was developed to facilitate the entry of data collected prior to the institution of the Environmental Restoration Information System (ERIS) database, to make data acquisition more complete and efficient with a higher degree of confidence in the final output, and to identify issues with the ERIS database. The OU 10-04 database was set up on the same type of Oracle software platform on which the ERIS system operates (the OU 10-04 database is version 8.1.5; whereas the ERIS system is version 7.3.3) and will be incorporated into the ERIS database for record keeping purposes.

#### C-1.2 Perform Data Evaluation

All sampling data collected to date at OU 10-04 release sites were evaluated to determine whether the data are appropriate and adequate for use in the BRA. This evaluation was conducted in accordance with EPA's *Guidance for Data Usability in Risk Assessment* (EPA 1992a). The data evaluation tasks that were completed as part of the BRA are as follows:

- Identification of release sites and facilities that require further evaluation (Section 3).
- Screen of release sites to identify sites that have the potential to produce adverse human health and ecological impacts (see the OU 10-04 Work Plan [DOE-ID 1999] and Section 3).

- Review of available sampling data for the retained release sites (see the OU 10-04 Work Plan [DOE-ID, 1999] and the site-specific sections [Sections 5 through 16]). This review included a “process knowledge” evaluation designed to identify any contaminants that may have been released at a given site but not sampled for.
- Identification of contaminants detected at each retained release site and screened to identify contaminants of potential concerns (COPCs) (see Section 4 for a discussion of the contaminant screening process and the site-specific sections [Sections 5 through 16] for the results of the contaminant screen).
- Development of data set for use in the risk assessment.

### C-1.3 Estimation of COPC Concentrations at Points of Exposure

Concentrations at the point of exposure associated with each COPC identified by the contaminant screening process are estimated for groundwater, air, and soil. Soil exposure concentrations are used in both the HHRA and ERA. The following sections provide details on how the estimated concentrations for each of these media are calculated.

The depths of contamination evaluated for the exposure routes discussed in the following sections are based on guidance given in the *INEL Track-2 Investigation Manual* (DOE-ID 1994). Specifically, contaminant concentrations are based on the 95% upper confidence limit (UCL) on the mean concentrations (or maximum concentration if the maximum is less than the 95% UCL) of samples collected over the following depth ranges:

<u>Depth</u>	<u>Exposure Route(s)</u>
0 to 0.2 m (0 to 6 in.)	HHRA Occupational scenario: soil ingestion, inhalation of fugitive dust, inhalation of volatiles
0 to 1.2 m (0 to 4 ft)	HHRA Occupational scenario: external radiation exposure
0 to 3 m (0 to 10 ft)	HHRA Residential scenario: all soil pathway and air pathway exposure routes; ERA
All sample results included, regardless of depth	HHRA Residential scenario: all groundwater pathway exposure routes

For all depth ranges, 95% UCL concentrations of the mean are calculated as described in *EPA Guidance on Calculating Concentration Terms* (EPA 1992b). As part of the analysis, all data sets are assumed to have lognormal distributions. Generally, the analytical results of the field investigations and decommissioning operations were used to estimate exposure point concentrations for each site-related COPC. This was accomplished by implementing the measures below for each retained site:

- Extract by site COPC concentration data from the ERIS or from appropriate information sources
- Eliminate data that were rejected per the method validation
- Eliminate data that indicated probable blank contamination

- Segregate quality control data (e.g., blanks, duplicates)
- Average duplicate results
- Assume nondetects are 1/2 the reported sample quantitative limit
- Aggregate data by individual COPC
- Aggregate COPC data by select depths, i.e., surface and surface + subsurface, (see Section C-1.3)
- Calculate the 95% UCL of the arithmetic mean for each COPC by select depths (Environmental Protection Agency [EPA 1992a])
- Assess appropriateness of the 95% UCL versus maximum concentration (EPA 1992a)
- Select appropriate concentration estimate
- Calculate contaminant concentration and/or contaminant mass.

Maximum concentrations are used when the 95% UCL exceeds the maximum value or when the 95% UCL is not calculated because data from only three or less samples are available. Specific calculations for the 95% UCL are dependent upon data distribution (i.e., whether the data are distributed normally or lognormally). If the distribution of the data is unknown, it is reasonable to assume that it is lognormally distributed (EPA 1992a).

When a group of sites was evaluated for cumulative effects, the contaminant concentrations were calculated to represent an area weighted value over the entire group. This was accomplished by taking the contaminant 95% UCL at each release site within the group and weighting it according to the equation below:

$$EPC_{\text{group}} = \frac{\sum EPC_n A_n}{A_T}$$

where

- $EPC_{\text{group}}$  = area weighted EPC in mg/kg or pCi/g
- $EPC_n$  = EPC at site n (mg/kg or pCi/g)
- $A_n$  = surface area of site n ( $m^2$ ) (including interstitial area at a site)
- $A_T$  = total area of the group ( $ft^2$  0.093  $m^2/ft^2$ )
- n = number of sites (including interstitial area as a site).

The exposure point concentrations, shown in the site-specific tables of Appendix C, indicate that a given COPC was detected in the depth interval shown in the table, not that the COPC contamination extends to the bottom of the interval. The average concentrations for each of the intervals were calculated by averaging detected concentrations in 0.3-m (1-ft) intervals. For example, the 0 to 1.2-m (0 to 4-ft)

average concentrations were calculated by determining the 95% UCL on the mean or maximum concentration, whichever is less, for each contaminant in the 0 to 0.3-m (0 to 1-ft), 0.3 to 0.6-m (1 to 2-ft), 0.6 to 0.9-m (2 to 3-ft), and 0.9 to 1.2-m (3 to 4-ft) range.

The exposure point concentrations for each of the above depth intervals were calculated by volume, weighting the 95% UCL concentrations for each of the bins (i.e., 0 to 0.5-ft below ground surface [bgs], 0.5 to 4.0-ft and 4 to 10-ft bgs). Equations C-1 and C-2 below show how the exposure point concentrations were calculated for the 0 to 4 ft and 0 to 10 ft depth intervals.

$$\text{EPC (0-4 ft)} = \frac{(95\% \text{UCL}_{0-0.5\text{ft}} * 0.5) + (95\% \text{UCL}_{0.5-4\text{ft}} * 3.5)}{4} \quad (\text{C-1})$$

$$\text{EPC (0-10 ft)} = \frac{(95\% \text{UCL}_{0-0.5\text{ft}} * 0.5) + (95\% \text{UCL}_{0.5-4\text{ft}} * 3.5) + (95\% \text{UCL}_{4-10\text{ft}} * 6)}{10} \quad (\text{C-2})$$

In the concentration at the point of exposure calculations, the only form of contaminant decay considered is radioactive decay (i.e., nonradionuclides are assumed to persist indefinitely in the environment). Radioactive decay is accounted for by estimating radionuclide concentrations at the start of a given exposure scenario and then calculating the average concentrations that will exist during the length of the scenario. For example, the concentration of a given radionuclide, analyzed in the current occupational exposure scenario, is the average concentration that would exist between 0 and 25 years in the future, and the concentration analyzed in the 100-year future residential scenario is the concentration that would exist from 100 to 130 years. Equation D-3 below presents the equation for calculating radioactive decay of the COPCs.

$$C_{\text{average}} = C_0 * \frac{\left( e^{-\left(\frac{\text{LN}(2)}{t_{1/2}}\right) * T_1} - e^{-\left(\frac{\text{LN}(2)}{t_{1/2}}\right) * T_2} \right)}{\frac{\text{LN}(2)}{t_{1/2}} * (T_2 - T_1)} \quad (\text{C-3})$$

where

$C_{\text{average}}$  = average exposure point concentration of COPC over time =  $T_1$  to  $T_2$  (pCi/g)

$C_0$  = initial exposure point concentration of COPC at time =  $T_0$  (pCi/g)

$t_{1/2}$  = half-life of radionuclide (years)

The average radionuclide concentrations over each time period are shown in Appendix E. The concentrations shown are used to calculate intakes for radionuclides.

The effects of radioactive progeny are only considered by using “+D” slope factors (SFs) in the radionuclide risk calculations. Decay and in growth calculations are not performed for complete radionuclide decay chains. The use of “+D” SFs account for risks produced by daughter products that are

in secular equilibrium with their parent radionuclides (EPA 1995). Slope factors for the radionuclides were taken from the 1997 Health Effects Assessment Summary Tables (HEAST).

## **C-1.4 Contaminant Screening**

This section summarizes the contaminant screening process for WAGs 6 and 10 release sites that could affect human health and the environment. Implementation of the contaminant screening process resulted in a list of COPCs for each of the retained release sites. The goal of selecting COPCs in this phase of the RI/BRA was to identify those site-related chemicals that would most significantly impact the estimated human health cancer risks and hazards and/or have adverse ecological impacts. Once identified, COPCs were advanced through the nature and extent evaluation, considered in the assessment of fate and transport, and included in the quantitative risk assessment. The human health chemical screening includes three steps: (1) background comparison, (2) essential nutrient identification, and (3) comparison against risk-based concentrations (RBCs). The ecological chemical screening includes three steps: (1) background comparison, (2) essential nutrient identification, and (3) comparison against ecologically-based screening levels (EBSLs). The maximum concentration for each chemical detected at each retained site was used for screening purposes. COPCs identified as a result of screening are summarized in Appendix C and in the site-specific sections of this report. The human health and ecological chemical screening steps are described further in Sections C-1.4.1 and C-1.4.2, respectively.

### **C-1.4.1 Human Health Chemical Screening**

The chemical screening method depicted in Figure 4-1 involves compiling all sampling data for each retained site and applying the chemical screen to the maximum concentration observed for each chemical detected at that site. The chemical screenings are described in the following sections.

The following data sources were sought out to obtain all the sample numbers correlating to the sites being investigated in OU 10-04 Work plan:

- Field Sampling Plan (FSPs)
- Project-Specific Final Reports
- Decontamination and Decommissioning (D&D) FSPs
- D&D Final/Summary Reports
- Data Summary Packages and Reports
- Track 1 Decision Documents
- Track 2 Summary Reports
- GIS Visualization Laboratory Sampling Maps
- Hazardous Material Chain of Custody Records
- Project Logbooks (Field Team Leader Daily Logbook and Sample Shipping Logbook).

### Human Health Chemical/Ecological Screening Process

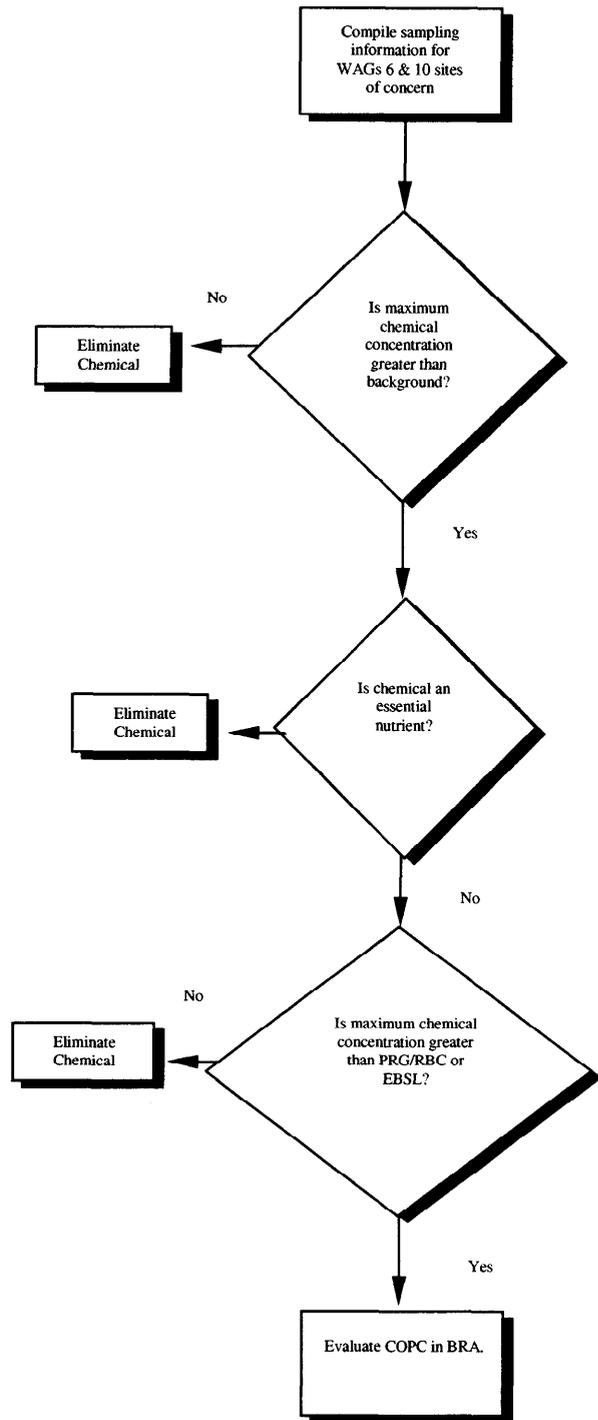


Figure 4-1. Human health and ecological chemical-screening processes.

All data located was entered into the OU 10-04 database and analyzed in the RI/FS.

**C-1.4.1.1 Step 1: Background Comparison.** Step 1 in the chemical screening process was to distinguish potential contamination associated with the OU 10-04 release sites from naturally occurring background conditions. This comparison was conducted for all metals and radionuclides measured at a site. Because organic contamination present at the OU 10-04 release sites was assumed to be manmade, background comparisons are not appropriate. If the maximum concentration or activity for a given metal or radionuclide was less than or equal to representative background levels established by Rood et al. (1995), the chemical was eliminated from quantitative evaluation in the human health portion of the RI/BRA. Rood et al. (1995) established the representative background levels used for contaminant screening by combining data sets from previous studies and calculating the upper 95/95 tolerance limits for each metal and radionuclide. The upper tolerance limits represent the concentration or activity that is higher than 95% of all values in the data set, determined with 95% statistical confidence. Background values from Rood et al. (1995) that were obtained from composite samples were used for comparison because they are more conservative than the background values reported by Rood et al. (1995) that were obtained from grab samples. Generally, sampling results are a combination of both grab and composite samples. Additional screening was performed for several metals that had limited analysis in Rood et al. (1995). This is discussed in detail in Appendix K. Any use of background other than Rood et al. (1995) was extensively documented in Appendix C. The background values used in this screening step are included in the screening tables presented in Appendix C.

**C-1.4.1.2 Step 2: Essential Nutrient Identification.** Step 2 of the human health chemical screening process was an essential nutrient analysis. Site chemicals that are routinely considered to be essential nutrients were not evaluated further in the human health portion of the RI/BRA unless the concentration was greatly in excess of the background value, i.e., 10 times the background value. The six metals that are routinely eliminated by this screening step are aluminum, calcium, iron, magnesium, potassium, and sodium (EPA 1991).

**C-1.4.1.3 Step 3: Risk-Based Concentration Screen.** Step 3 in the human health chemical screening process was to compare potential contaminants, associated with the OU 10-04 release sites, with the human health risk based concentration of PRG (also called a risk based concentration (RBC)). This comparison was conducted for each chemical measured at a site that had survived chemical screening Steps 1 and 2, as well as detected organic contaminants. If the maximum concentration for a given chemical was less than or equal to the most conservative RBC as Environmental Protection Agency (EPA) Region 9 PRGs (October 1999), the chemical was eliminated from quantitative evaluation in the human health portion of the RI/BRA, as discussed in Section 4.2. EPA Region 3 Risk Based Concentrations (RBCs) Table (EPA 1999b) were also used for chemicals that did not have a Region 9 value. Because lead does not have a PRG or RBC, lead concentrations were screened by comparison to the residential soil screening level of 400 mg/kg, as presented in EPA (1994).

Radionuclide RBC Tables were provided for screening radionuclides in a Memorandum from Jeff Fromm (1996).

The contaminant screening process for the OU 10-04 human health risk assessment (HHRA) used concentrations calculated based on a risk of 1E-06 and an HQ of 1. However, when screening multiple contaminants, Region 3 recommends using one-tenth of the risk-based concentration (RBC) as the basis for contaminant screening. Region 9 recommends using the risk-based concentration divided by the number of contaminants. A sensitivity analysis was conducted based on either one-tenth the RBC or the RBC divided by the number of contaminants to see if there would be any differences in the number of contaminants retained for the HHRA. The results are documented in the footnotes of Appendix C screening tables. No COPCs were identified as being of additional concern with the exception of metals

at the NODA Area 2. These COPCs were not brought forward into the analysis because the data driving the cleanup in this area is from the 1980s and has quality control issues. Additionally, this site is proposed for evaluation in the FS and any resulting cleanup actions should also reduce the concentration of these additional contaminants.

It is considered acceptable in the contaminant screening process to use the RBC without modification, because remedial decisions at the INEEL are generally based on the carcinogenic residential risk level of 1E-04. In other words, if a site's estimated residential risk exceeds a value of 1E-04, the site is typically considered for remedial action. The 1E-04 risk level is two orders of magnitude greater than the 1E-06 risk level that was used to calculate the Region 3-recommended risk-based concentration, so the 1E-06 RBCs are adequately protective.

Additionally, the baseline risk assessment (BRA) methodologies for noncarcinogens are also sufficiently conservative to preclude inappropriate remedial decisions that might result from screening contaminants. For example, the noncarcinogenic assessment used in the BRA implements upper-bound values for all exposure factors and treats all noncarcinogenic health effects additively (i.e., all noncarcinogens were assumed to produce adverse health impacts in the same organ). Decay of noncarcinogens in the environment is not considered.

These conservative methods tend to produce upper-bound HQ estimates for all COPCs that passed the screening process and to increase the chance that a given site would be considered for remediation. However, the sensitivity analysis performed and documented with each screening table ensures that the risk assessment is conservative.

#### **C-1.4.2 Ecological Chemical Screening**

The same data set compiled for the human health chemical screening was screened to identify COPCs to be further evaluated in the ecological portion of the BRA (see Figure 4-1). The screening steps to identify ecological COPCs are described below.

**C-1.4.2.1 Step 1: Background Comparison.** As with the human health chemical screening, the first step in the ecological chemical screening process was to distinguish potential contamination associated with the OU 10-04 release sites from naturally occurring background conditions. As described in Section C-1.4.1, the comparison was primarily conducted using the composite background values from Rood et al. (1995) or from other sources, as identified. The background screening tables are presented in Appendix C.

**C-1.4.2.2 Step 2: Essential Nutrient Identification.** Step 2 of the ecological chemical screening process was an essential nutrient analysis. As with the human health risk assessment, site chemicals that are considered essential nutrients were not evaluated further unless the concentration was greatly in excess of the background value (10 times). The six metals routinely eliminated by this screening step are aluminum, calcium, iron, magnesium, potassium, and sodium.

**C-1.4.2.3 Step 3: Ecologically-Based Screening Level Comparison.** For the remaining chemicals, the third step in the ecological chemical screening process was to compare potential contaminants associated with the OU 10-04 release sites with EBSLs. If the maximum concentration for a given chemical was greater than or equal to the most conservative EBSL, the chemical was retained for further evaluation in the ecological portion of the BRA, as discussed in Section 4.2. The EBSLs used for the screening are consistent with the INEEL-wide screening levels and are presented in the screening tables in the site-specific sections of this report. Details for EBSL development are documented in Appendix D2 of the Work Plan (DOE 1999).

Table C1-a. Soil Contaminant Screening Process for OU 10-04, EBR-04 (1995).

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC?		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration > Background?	Nontoxic Metal?	Region 9/3 RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
Pu-238	3.20E-02	4.90E-03	Yes	No	6.70E+00	No	1.78E+01	No	No	No	No
U-234	1.11E+00	1.44E+00	No	No	1.80E+01	No	2.05E+01	No	No	No	No
U-235	9.00E-02	NA	NA	No	1.30E-01	No	2.27E+01	No	No	No	No
U-238	1.22E+00	1.40E+00	No	No	6.70E-01	Yes	2.32E+01	No	No	No	No

Source: WAG 10, OU 10-04 Database.

"NA" in Step 1 indicates that a background value is not available.

"No RBC" indicates that an EPA Region 9 or 3 risk-based concentration based on residential soil ingestion is not available.

"No EBSL" indicates that an INEEL EBSL is not available.

a. HHRA screening using 1/10<sup>th</sup> of the RBC (see Section C-1.4.1.3).

**Table C1-b. Summary Statistics for the EBR-04 Soils.**

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Am-241	0	5	0	0	0	NA	NA	pCi/g
Pu-238	2	5	40	0.003	0.032	0.016	0.013	pCi/g
Pu-239	0	5	0	0	0	NA	NA	pCi/g
U-234	5	5	100	0.31	1.11	0.798	0.299	pCi/g
U-238	5	5	100	0.33	1.22	0.860	0.336	pCi/g
U-235	4	5	80	0.005U	0.09	0.041	0.031	pCi/g

U = non detect; value represents ½ the detection limit.

NA = not applicable; not calculated

**Table C2-a. Soil Contaminant Screening Process for WAG 6, OU 6-01, BORAX-02 (BORAX-I Burial Ground) (1996 Post-Remediation).**

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC?		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration >Background?	Nontoxic Metal?	Region 9/3 RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
Cs-137	8.60E+00	8.20E-01	Yes	No	2.30E-01	Yes	4.95E+03	No	Yes	No	Yes
Sr-90	8.50E+01	4.90E-01	Yes	No	2.30E+02	No	3.34E+03	No	No	No	Yes
U-235	2.40E-01	NA	NA	No	1.30E-01	Yes	2.27E+01	No	Yes	No	Yes

Source: WAG 10, OU 10-04 Database.

"NA" in Step 1 indicates that a background value is not available.

"No RBC" indicates that an EPA Region 9 or 3 risk-based concentration based on residential soil ingestion is not available.

"No EBSL" indicates that an INEEL EBSL is not available.

a. HHRA screening using 1/10<sup>th</sup> of the RBC (see Section C-1.4.1.3). The half-life for Sr-90 is 29 years. Within the 100-year residential scenario, Sr-90 will have undergone over three half-lives, which would drop the maximum concentration to less than 1/10<sup>th</sup> of the RBC.

**Table C2-b. Summary Statistics for the BORAX-02 Soils.**

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Cs-137	24	24	100	0.07	8.60	1.53	2.25	pCi/g
Sr-90	9	9	100	0.90	85.0	12.4	27.4	pCi/g
U-235	3	3	100	0.16	0.24	0.20	0.04	pCi/g

**Table C2-c. Summary Exposure Point Concentrations for BORAX-02 by bin depths.**

COPC	0-0.5 ft	0-4 ft	0-10 ft
Cs-137	4.18E+00	2.22E+00	8.88E-01
U-235	2.40E-01	1.96E-01	7.85E-02

EPC units are mg/kg or pCi/g; bin depths are in feet.

Table C3-a. Soil Contamination Screening Process for OU 10-04, BORAX-01 (Leach Pond).

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration >Background?	Nontoxic Metal?	Region IX/II RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
2,4-Dichlorophenol	6.80E-02	NA	NA	No	1.83E+02	No	No EBSL	No EBSL	No	Yes	No
Arsenic	1.30E+01	5.80E+00	Yes	No	3.90E-01	Yes	8.44E-01	Yes	No <sup>b</sup>	No <sup>b</sup>	No <sup>b</sup>
Barium	2.41E+02	3.00E+02	No	No	5.48E+03	No	1.10E+01	Yes	No	No	No
Cadmium	6.90E+00	2.20E+00	Yes	No	3.70E+01	No	2.36E-03	Yes	No	Yes	Yes <sup>c</sup>
Chloromethane	2.00E-03	NA	NA	No	1.23E+00	No	No EBSL	No EBSL	No	Yes	No
Chromium	2.46E+01	3.30E+01	No	No	2.10E+02	No	1.00E+00	Yes	No	No	No
Co-60	2.50E+01	NA	NA	No	7.40E+03	No	1.18E+03	No	No	No	No
Cobalt	1.52E+01	1.10E+01	Yes	No	4.69E+03	No	4.27E-01	Yes	No	Yes	No
Copper	1.67E+01	2.20E+01	No	No	2.90E+03	No	2.11E+00	Yes	No	No	No
Cs-137	1.75E+02	8.20E-01	Yes	No	2.30E-01	Yes	4.95E+03	No	Yes	No	Yes
K-40	2.10E+01	2.40E+01	No	No	5.70E-02	Yes	No EBSL	No EBSL	No	No	No
Lead	1.65E+01	1.70E+01	No	No	4.00E+02	No	9.94E-01	Yes	No	No	No
Mercury	7.00E-01	5.00E-02	Yes	No	6.10E+00	No	3.00E-01	Yes	No	Yes	Yes <sup>c</sup>
Methylene Chloride	6.00E-03	NA	NA	No	8.88E+00	No	1.00E+00	No	No	No	No
Nickel	2.91E+01	3.50E+01	No	No	1.56E+03	No	3.00E+01	No	No	No	No
Pu-238	1.00E-01	4.90E-03	Yes	No	6.70E+00	No	1.78E+01	No	No	No	No
Pu-239	5.00E-02	1.00E-01	No	No	2.50E+00	No	1.89E+01	No	No	No	No
Sr-90	3.00E-01	4.90E-01	No	No	2.30E+02	No	3.34E+03	No	No	No	No
Toluene	2.00E-03	NA	NA	No	5.20E+02	No	6.04E+01	No	No	No	No
U-234	1.44E+00	1.44E+00	Yes	No	1.80E+01	No	2.05E+01	No	No	No	No
U-235	6.00E-01	NA	NA	No	1.30E-01	Yes	2.27E+01	No	Yes	No	Yes

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**Table C3-a.** (continued).

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration >Background?	Nontoxic Metal?	Region IX/II RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
U-238	1.40E+00	1.40E+00	Yes	No	6.70E-01	Yes	2.32E+01	No	Yes	No	Yes
Vanadium	3.64E+01	4.50E+01	No	No	5.48E+02	No	1.49E+00	Yes	No	No	No
Zinc	8.72E+01	1.50E+02	No	No	2.35E+04	No	3.29E+00	Yes	No	No	No

Source: WAG 10, OU 10-04 Database.

"NA" in Step 1 indicates that a background value is not available.

"No RBC" indicates that an EPA Region 9 or 3 risk-based concentration based on residential soil ingestion is not available.

"No EBSL" indicates that an INEEL EBSL is not available.

a. HHRA screening using 1/10<sup>th</sup> of the RBC (see Section C-1.4.1.3).

b. Arsenic was removed from the ERA & HHRA COPC lists because detected levels are within the arsenic regional background ranges discussed in Appendix K.

c. Cadmium and mercury will not be assessed in the HHRA. Both COPCs are at depth, below 4 feet, and have EPCs very close to 1/10<sup>th</sup> of the RBC (see Table C3-c).

Table C3-b. Summary Statistics for the BORAX-01 Soils (Leach Pond).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
1,3,5-Trinitrobenzene	0	4	0	0.19U	0.19U	NA	NA	Mg/kg
1,3-Dichlorobenzene	0	4	0	0.18U	0.19U	NA	NA	Mg/kg
1,3-Dinitrobenzene	0	4	0	0.19U	0.19U	NA	NA	Mg/kg
Benzene	0	4	0	0.003U	0.003U	NA	NA	Mg/kg
Cs-137	26	41	63.4	0.05U	175	7.33	29.4	pCi/g
Ethylbenzene	0	4	0	0.003U	0.003U	NA	NA	Mg/kg
Pu-238	3	3	100	0.006	0.1	0.037	0.054	pCi/g
Pu-239	3	3	100	0.014	0.05	0.032	0.018	pCi/g
Sr-90	5	5	100	0.05	0.3	0.156	0.096	pCi/g
Toluene	2	4	50	0.003U	0.002	0.002	0.001	Mg/kg
U-234	3	3	100	1.31	1.44	1.37	0.066	pCi/g
U-238	3	3	100	1.1	1.4	1.24	0.152	pCi/g
Xylene (total)	0	4	0	0.003U	0.003U	NA	NA	Mg/kg
U-235	6	38	15.8	0.25U	0.6	0.257	0.099	pCi/g
Antimony	0	4	0	6.65U	7.0U	NA	NA	Mg/kg
Arsenic	4	4	100	5.3	13.0	7.28	3.82	Mg/kg
Barium	4	4	100	190	241	214	27.3	Mg/kg
Beryllium	0	4	0	0.55U	0.55U	NA	NA	Mg/kg
Cadmium	4	4	100	4.6	6.9	5.4	1.02	Mg/kg
Chromium	4	4	100	17.7	24.0	21.1	3.06	Mg/kg
Co-60	4	38	10.5	0.05U	25.0	1.06	4.27	pCi/g
Cobalt	1	4	25	5.45U	15.2	NA	NA	Mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Copper	4	4	100	14.0	16.7	15.2	1.15	mg/kg
Lead	4	4	100	12.8	16.5	14.3	1.69	mg/kg
Nickel	4	4	100	22.5	29.1	25.4	3.18	mg/kg
Selenium	0	4	0	0.55U	0.6U	NA	NA	mg/kg
Silver	0	4	0	1.1U	1.35U	NA	NA	mg/kg
Thallium	0	4	0	1.1U	1.15U	NA	NA	mg/kg
Vanadium	4	4	100	32.1	36.4	33.8	1.87	mg/kg
Zinc	4	4	100	76.1	87.2	81.7	4.54	mg/kg
1,1,1,2-Tetrachloroethane	0	4	0	0.006U	0.006U	NA	NA	mg/kg
1,1,1-Trichloroethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
1,1,2,2-Tetrachloroethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
1,1,2-Trichloroethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
1,1-Dichloroethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
1,1-Dichloroethene	0	4	0	0.003U	0.003U	NA	NA	mg/kg
1,2,3,4-Tetrachlorobenzene	0	4	0	0.19U	0.192U	NA	NA	mg/kg
1,2,3-Trichloropropane	0	4	0	0.006U	0.006U	NA	NA	mg/kg
1,2,4-Trichlorobenzene	0	4	0	0.185U	0.19U	NA	NA	mg/kg
1,2-Dibromo-3-chloropropane	0	4	0	0.012U	0.012U	NA	NA	mg/kg
1,2-Dibromoethane	0	4	0	0.012U	0.012U	NA	NA	mg/kg
1,2-Dichlorobenzene	0	4	0	0.185U	0.19U	NA	NA	mg/kg
1,2-Dichloroethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
1,2-Dichloropropane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
1,4-Dichlorobenzene	0	4	0	0.185U	0.19U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
1,4-Dioxane	0	4	0	0.19U	0.19U	NA	NA	mg/kg
1,4-Naphthoquinone	0	4	0	0.19U	0.19U	NA	NA	mg/kg
1-Naphthylamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
2,3,4,6-Tetrachlorophenol	0	4	0	0.19U	0.19U	NA	NA	mg/kg
2,4,5-T	0	4	0	0.01U	0.01U	NA	NA	mg/kg
2,4,5-TP (Silvex)	0	4	0	0.01U	0.01U	NA	NA	mg/kg
2,4,5-Trichlorophenol	0	4	0	0.9U	0.95U	NA	NA	mg/kg
2,4,6-Trichlorophenol	0	4	0	0.185U	0.19U	NA	NA	mg/kg
2,4'-DDD	0	4	0	0.019U	0.019U	NA	NA	mg/kg
2,4-Dichlorophenol	1	4	25	0.185U	0.38U	NA	NA	mg/kg
2,4-Dimethylphenol	0	4	0	0.185U	0.19U	NA	NA	mg/kg
2,4-Dinitrophenol	0	4	0	0.9U	0.95U	NA	NA	mg/kg
2,4-Dinitrotoluene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
2,6-Dichlorophenol	0	4	0	0.19U	0.19U	NA	NA	mg/kg
2,6-Dinitrotoluene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
2-Acetylaminofluorene	0	4	0	0.19U	0.19U	NA	NA	mg/kg
2-Chloronaphthalene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
2-Chlorophenol	0	4	0	0.18U	0.19U	NA	NA	mg/kg
2-Hexanone	0	4	0	0.006U	0.006U	NA	NA	mg/kg
2-Methylnaphthalene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
2-Methylphenol	0	4	0	0.18U	0.19U	NA	NA	mg/kg
2-Naphthylamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
2-Nitroaniline	0	4	0	0.9U	0.95U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
2-Nitrophenol	0	4	0	0.18U	0.19U	NA	NA	mg/kg
2-Picoline	0	4	0	0.19U	0.192U	NA	NA	mg/kg
3,3'-Dichlorobenzidine	0	4	0	0.37U	0.385U	NA	NA	mg/kg
3-Methylcholanthrene	0	4	0	0.16U	0.192U	NA	NA	mg/kg
3-Methylphenol	0	4	0	0.19U	0.192U	NA	NA	mg/kg
3-Nitroaniline	0	4	0	0.9U	0.95U	NA	NA	mg/kg
4,4'-DDD	0	4	0	0.009U	0.01U	NA	NA	mg/kg
4,4'-DDE	0	4	0	0.009U	0.01U	NA	NA	mg/kg
4,4'-DDT	0	4	0	0.009U	0.01U	NA	NA	mg/kg
4,6-Dinitro-2-methylphenol	0	4	0	0.9U	0.95U	NA	NA	mg/kg
4-Aminobiphenyl	0	4	0	0.19U	0.192U	NA	NA	mg/kg
4-Bromophenyl-phenylether	0	4	0	0.18U	0.19U	NA	NA	mg/kg
4-Chloro-3-methylphenol	0	4	0	0.18U	0.19U	NA	NA	mg/kg
4-Chloroaniline	0	4	0	0.18U	0.19U	NA	NA	mg/kg
4-Chlorophenyl-phenylether	0	4	0	0.18U	0.19U	NA	NA	mg/kg
4-Methyl-2-Pentanone	0	4	0	0.006U	0.006U	NA	NA	mg/kg
4-Methylphenol	0	4	0	0.18U	0.190U	NA	NA	mg/kg
4-Nitroaniline	0	4	0	0.90U	0.950U	NA	NA	mg/kg
4-Nitrophenol	0	4	0	0.90U	0.950U	NA	NA	mg/kg
4-Nitroquinoline-1-oxide	0	4	0	0.38U	0.393U	NA	NA	mg/kg
5-Nitro-o-toluidine	0	4	0	0.19U	0.192U	NA	NA	mg/kg
7,12-Dimethylbenz(a)anthracene	0	4	0	0.19U	0.192U	NA	NA	mg/kg
a,a-Dimethylphenethylamine	0	4	0	0.19U	0.192U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Acenaphthene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Acenaphthylene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Acetone	0	4	0	0.011U	0.019U	NA	NA	mg/kg
Acetonitrile	0	4	0	0.012U	0.012U	NA	NA	mg/kg
Acetophenone	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Acrolein	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Acrylonitrile	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Aldrin	0	4	0	0.005U	0.005U	NA	NA	mg/kg
Allyl Chloride	0	4	0	0.012U	0.012U	NA	NA	mg/kg
Alpha-BHC	0	4	0	0.005U	0.005U	NA	NA	mg/kg
alpha-Chlordane	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Aniline	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Anthracene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Aramite	0	4	0	0.38U	0.38U	NA	NA	mg/kg
Aroclor-1016	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Aroclor-1221	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Aroclor-1232	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Aroclor-1242	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Aroclor-1248	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Aroclor-1254	0	4	0	0.09U	0.095U	NA	NA	mg/kg
Aroclor-1260	0	4	0	0.09U	0.095U	NA	NA	mg/kg
Benzo(a)anthracene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Benzo(a)pyrene	0	4	0	0.18U	0.19U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Benzo(b)fluoranthene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Benzo(g,h,i)perylene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Benzo(k)fluoranthene	0	4	0	0.18U	0.95U	NA	NA	mg/kg
Benzoic acid	0	4	0	0.9U	0.95U	NA	NA	mg/kg
Benzyl alcohol	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Beta-BHC	0	4	0	0.005U	0.005U	NA	NA	mg/kg
bis(2-Chloroethoxy)methane	0	4	0	0.18U	0.19U	NA	NA	mg/kg
bis(2-Chloroethyl)ether	0	4	0	0.18U	0.19U	NA	NA	mg/kg
bis(2-Chloroisopropyl)ether	0	4	0	0.18U	0.19U	NA	NA	mg/kg
bis(2-Ethylhexyl)phthalate	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Bromodichloromethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Bromoform	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Bromomethane	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Butylbenzylphthalate	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Carbon Disulfide	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Carbon Tetrachloride	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Chlorobenzene	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Chlorobenzilate	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Chloroethane	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Chloroform	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Chloromethane	4	4	100	0.001U	0.002U	0.002	0.001	mg/kg
Chloroprene	0	4	0	0.057U	0.059U	NA	NA	mg/kg
Chrysene	0	4	0	0.18U	0.19U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Cs-134	0	40	0	0.05U	0.05U	NA	NA	pCi/g
Cyanide	0	4	0	0.7U	0.8U	NA	NA	mg/kg
Delta-BHC	0	4	0	0.005U	0.005U	NA	NA	mg/kg
Di-allate	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Dibenz(a,h)anthracene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Dibenzofuran	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Dibromochloromethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Dibromomethane	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Dichlorodifluoromethane	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Dieldrin	0	4	0	0.009U	0.01U	NA	NA	mg/kg
Diethylphthalate	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Dimethoate	0	4	0	0.019U	0.019U	NA	NA	mg/kg
Dimethylphthalate	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Di-n-butylphthalate	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Di-n-octylphthalate	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Diphenylamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Disulfoton	0	4	0	0.019U	0.019U	NA	NA	mg/kg
Endosulfan I	0	4	0	0.005U	0.005U	NA	NA	mg/kg
Endosulfan II	0	4	0	0.009U	0.01U	NA	NA	mg/kg
Endosulfan sulfate	0	4	0	0.009U	0.01U	NA	NA	mg/kg
Endrin	0	4	0	0.009U	0.01U	NA	NA	mg/kg
Endrin aldehyde	0	4	0	0.004U	0.004U	NA	NA	mg/kg
Endrin ketone	0	4	0	0.009U	0.01U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Ethyl methacrylate	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Ethyl methanesulfonate	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Ethylcyanide	0	4	0	0.029U	0.03U	NA	NA	mg/kg
Famphur	0	4	0	0.038U	0.039U	NA	NA	mg/kg
Fluoranthene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Fluorene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Gamma-BHC	0	4	0	0.005U	0.005U	NA	NA	mg/kg
gamma-Chlordane	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Heptachlor	0	4	0	0.005U	0.005U	NA	NA	mg/kg
Heptachlor epoxide	0	4	0	0.005U	0.005U	NA	NA	mg/kg
Hexachlorobenzene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Hexachlorobutadiene	0	4	0	0.18U	0.38U	NA	NA	mg/kg
Hexachlorocyclopentadiene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Hexachloroethane	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Hexachlorophene	0	4	0	1.7U	1.73U	NA	NA	mg/kg
Hexachloropropene	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Indeno(1,2,3-cd)pyrene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Iodomethane	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Isobutyl alcohol	0	4	0	0.012U	0.012U	NA	NA	mg/kg
Isodrin	0	4	0	0.002U	0.002U	NA	NA	mg/kg
Isophorone	0	4	0	0.185U	0.19U	NA	NA	mg/kg
Isosafrole	0	4	0	0.19U	0.19U	NA	NA	mg/kg
K-40	41	41	100	10.0	21.0	16.1	2.22	pCi/g

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Kepone	0	4	0	0.002U	0.002U	NA	NA	mg/kg
Mercury	3	3	100	0.5	0.7	0.567	0.115	mg/kg
Methacrylonitrile	0	4	0	0.012U	0.012	NA	NA	mg/kg
Methapyrilene	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Methoxychlor	0	4	0	0.046U	0.047U	NA	NA	mg/kg
Methyl methacrylate	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Methyl Methanesulfonate	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Methyl Parathion	0	4	0	0.004U	0.004U	NA	NA	mg/kg
Methylene Chloride	1	4	25	0.003	0.006	0.003	0.002	mg/kg
Naphthalene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Nitrobenzene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
N-Nitrosodimethylamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
N-Nitroso-di-n-butylamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
N-Nitroso-di-n-propylamine	0	4	0	0.18U	0.19U	NA	NA	mg/kg
N-Nitrosodiphenylamine	0	4	0	0.18U	0.19U	NA	NA	mg/kg
N-Nitrosomethylethylamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
N-Nitrosomorpholine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
N-Nitrosopiperidine	0	4	0	0.95U	0.96U	NA	NA	mg/kg
N-Nitrosopyrrolidine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
o,o,o-Triethylphosphorothioate	0	4	0	0.019U	0.019U	NA	NA	mg/kg
o-Toluidine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
p-(Dimethylamino)azobenzene	0	4	0	0.19U	0.19U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Parathion	0	4	0	0.004U	0.004U	NA	NA	mg/kg
Pentachlorobenzene	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Pentachloroethane	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Pentachloronitrobenzene	0	4	0	0.95U	0.96U	NA	NA	mg/kg
Pentachlorophenol	0	4	0	0.9U	0.95U	NA	NA	mg/kg
Phenacetin	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Phenanthrene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Phenol	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Phorate	0	4	0	0.004U	0.004U	NA	NA	mg/kg
p-Phenylenediamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Pronamide	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Propionitrile	0	4	0	0.029U	0.03U	NA	NA	mg/kg
Pyrene	0	4	0	0.18U	0.19U	NA	NA	mg/kg
Pyridine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Safrole	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Styrene	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Sulfide	0	4	0	55U	60U	NA	NA	mg/kg
Sulfotep	0	4	0	0.019U	0.019U	NA	NA	mg/kg
Tetrachloroethene	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Thionazin	0	4	0	0.019U	0.019U	NA	NA	mg/kg
Tin	0	4	0	109U	150U	NA	NA	mg/kg
Toxaphene	0	4	0	0.09U	0.095U	NA	NA	mg/kg
trans-1,4-Dichloro-2-butene	0	4	0	0.029U	0.03U	NA	NA	mg/kg

**Table C3-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Trichloroethene	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Trichlorofluoromethane	0	4	0	0.003U	0.003U	NA	NA	mg/kg
Vinyl Acetate	0	4	0	0.006U	0.006U	NA	NA	mg/kg
Vinyl Chloride	0	4	0	0.006U	0.006U	NA	NA	mg/kg
3,3'-Dimethylbenzidine	0	4	0	0.19U	0.19U	NA	NA	mg/kg
Dinoseb	0	4	0	0.959U	0.96U	NA	NA	mg/kg
<u>N</u> -nitrosodiethylamine	0	4	0	0.19U	0.19U	NA	NA	mg/kg

U = non detect; value represents 1/2 the detection limit.

NA = not applicable; not calculated

Table C3-c. Summary Exposure Point Concentrations for BORAX-01 by bin depths.

COPC	0-0.5 ft			0-4 ft			0-10 ft		
2,4-Dichlorophenol	NA	NA	NA	NA	NA	NA	2.28E-01	2.28E-01	2.28E-01
Cadmium	NA	NA	NA	NA	NA	NA	4.14E+00	4.14E+00	4.14E+00
Chloromethane	NA	NA	NA	NA	NA	NA	1.20E-03	1.20E-03	1.20E-03
Cobalt	NA	NA	NA	NA	NA	NA	9.12E+00	9.12E+00	9.12E+00
Cs-137	2.24E+00	2.24E+00	2.24E+00	9.54E+01	9.54E+01	9.54E+01	3.95E+01	3.95E+01	3.95E+01
Mercury	NA	NA	NA	NA	NA	NA	4.20E-01	4.20E-01	4.20E-01
U-235	2.50E-01	2.50E-01	2.50E-01	3.13E-01	3.13E-01	3.13E-01	3.15E-01	3.15E-01	3.15E-01
U-238	1.21E+00	1.21E+00	1.21E+00	1.38E+00	1.38E+00	1.38E+00	1.21E+00	1.21E+00	1.21E+00

NA = Not applicable, no samples were taken at this soil depth.a. EPC units are mg/kg or pCi/g; bin depths are in feet.

Table C4-a. Soil Contaminant Screening Process for OU 10-04, BORAX-08- New Ditch (1990, 1993, 1994).

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC?		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration >Background?	Nontoxic Metal?	Region 9/3 RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
Cs-137	1.45E+01	8.20E-01	Yes	No	2.30E-01	Yes	4.95E+03	No	Yes	No	Yes
U-234	8.60E-01	1.44E+00	No	No	1.80E+01	No	2.05E+01	No	No	No	No
U-238	8.90E-01	1.40E+00	No	No	6.70E-01	Yes	2.32E+01	No	No	No	No

Source: WAG 10, OU 10-04 Database.

"NA" in Step 1 indicates that a background value is not available.

"No RBC" indicates that an EPA Region 9 or 3 risk-based Concentration based on residential soil ingestion is not available.

"No EBSL" indicates that an INEEL EBSL is not available.

a. HHRA screening using 1/10<sup>th</sup> of the RBC (see Section C-1.4.1.3).

Table C4-b. Summary Statistics for the BORAX-08 Soils.

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
AM-241 AND/OR PU-238	0	1	0	0.006U	0.006U	NA	NA	pCi/g
Cs-137	23	23	100	0.09	14.5	2.39	3.36	pCi/g
Pu-239	0	1	0	0.015U	0.015U	NA	NA	pCi/g
Sr-90	0	1	0	0.1U	0.1U	NA	NA	pCi/g
U-234	1	1	100	0.86	0.86	NA	NA	pCi/g
U-238	1	1	100	0.89	0.89	NA	NA	pCi/g

U = non detect; value represents 1/2 the detection limit.

NA = not applicable; not calculated

Table C4-c. Summary Exposure Point Concentrations for BORAX-08 by bin depths.

COPC	0-0.5	0-4	0-10
Cs-137	7.22E+00	1.36E+01	5.44E+00

EPC units are mg/kg or pCi/g, bin depths are in feet.

Table C5-a. Soil Contaminant Screening Process for OU 10-04, BORAX-09 (Reactor Bldg. Post-D&D).

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC?		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration >Background?	Nontoxic Metal?	Region 9/3 RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
Aluminum	1.59E+04	1.60E+04	No	Yes	7.61E+04	No	8.50E+00	Yes	No	No	No
Arsenic	7.70E+00	5.80E+00	Yes	No	3.90E-01	Yes	8.44E-01	Yes	No <sup>b</sup>	No <sup>b</sup>	No <sup>b</sup>
Barium	2.25E+02	3.00E+02	No	No	5.48E+03	No	1.10E+01	Yes	No	No	No
Beryllium	7.90E-01	1.80E+00	No	No	1.56E+02	No	7.14E-01	Yes	No	No	No
Cadmium	1.10E+00	2.20E+00	No	No	3.90E+01	No	2.36E-03	Yes	No	No	No
Calcium	4.86E+04	2.40E+04	Yes	Yes	No RBC	No RBC	No EBSL	No EBSL	No	No	No
Chromium	2.45E+01	3.30E+01	No	No	2.10E+02	No	1.00E+00	Yes	No	No	No
Co-60	6.70E-01	NA	NA	No	7.40E+03	No	1.18E+03	No	No	No	No
Cobalt	1.07E+01	1.10E+01	No	No	4.69E+03	No	4.27E-01	Yes	No	No	No
Copper	2.06E+01	2.20E+01	No	No	2.90E+03	No	2.11E+00	Yes	No	No	No
Cs-137	1.41E+01	8.20E-01	Yes	No	2.30E-01	Yes	4.95E+03	No	Yes	No	Yes
Iron	2.14E+04	2.40E+04	No	Yes	2.35E+04	No	No EBSL	No EBSL	No	No	No
Lead	1.41E+01	1.70E+01	No	No	4.00E+02	No	9.94E-01	Yes	No	No	No
Magnesium	9.45E+03	1.20E+04	No	Yes	No RBC	No RBC	No EBSL	No EBSL	No	No	No
Manganese	4.97E+02	4.90E+02	Yes	No	1.60E+03	No	1.05E+01	Yes	No	Yes	Yes <sup>c</sup>
Mercury	1.20E+00	5.00E-02	Yes	No	6.10E+00	No	3.00E-01	Yes	No	Yes	Yes <sup>c</sup>
Nickel	2.20E+01	3.50E+01	No	No	1.56E+03	No	3.00E+01	No	No	No	No
Potassium	2.67E+03	4.30E+03	No	Yes	No RBC	No RBC	No EBSL	No EBSL	No	No	No
Pu-239/240	3.40E-02	1.00E-01	No	No	No RBC	No RBC	1.89E+01	No	No	No	No
Sodium	6.76E+02	3.20E+02	Yes	Yes	No RBC	No RBC	No EBSL	No EBSL	No	No	No
Sr-90	1.00E+00	4.90E-01	Yes	No	2.30E+02	No	3.34E+03	No	No	No	No

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**Table C5-a.** (continued)

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC?		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration >Background?	Nontoxic Metal?	Region 9/3 RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
Th-230	1.54E+00	1.41E+00	Yes	No	2.10E+01	No	2.09E+01	No	No	No	No
Th-232	9.18E-01	1.60E+00	No	No	2.40E+01	No	2.43E+01	No	No	No	No
U-234	1.61E+00	1.44E+00	Yes	No	1.80E+01	No	2.05E+01	No	No	No	No
U-235	6.44E-02	NA	NA	No	1.30E-01	No	2.27E+01	No	No	No	Yes <sup>d</sup>
U-238	1.00E+00	1.40E+00	No	No	6.70E-01	Yes	2.32E+01	No	No	No	No
Vanadium	3.73E+01	4.50E+01	No	No	5.48E+02	No	1.49E+00	Yes	No	No	No
Zinc	8.74E+01	1.50E+02	No	No	2.35E+04	No	3.29E+00	Yes	No	No	No

Source: WAG 10, OU 10-04 Database.

"NA" in Step 1 indicates that a background value is not available.

"No RBC" indicates that an EPA Region 9 or 3 risk-based concentration based on residential soil ingestion is not available.

"No EBSL" indicates that an INEEL EBSL is not available.

- a. HHRA screening using 1/10<sup>th</sup> of the RBC (see Section C-1.4.1.3).
- b. Arsenic was removed from the ERA & HHRA COPC lists because detected levels are within the arsenic regional background ranges discussed in Appendix K.
- c. Manganese and Mercury were identified as possible COPCs during a preliminary screen of contaminants to 1/10<sup>th</sup> of the RBC. However, the maximum manganese detection is only slightly above background, and the maximum concentration for mercury was less than 1/2 of its RBC and would not show risk if assessed. These contaminants will not be evaluated in the HHRA.
- d. U-235 was evaluated in the HHRA spreadsheets for this site, but the results confirmed that no additional risk was presented from this COPC. Total risk, from the external radiation exposure pathway, at BORAX-09 remained the same as presented in the original HHRA.

Table C5-b. Summary Statistics for the BORAX-09 Soils.

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Cs-137	22	22	100	0.15	14.1	1.17	2.92	pCi/g
Sr-90	4	4	100	0.8	1.0	0.9	0.082	pCi/g
Th-232	4	4	100	0.446	0.918	0.721	0.221	pCi/g
U-234	4	4	100	0.233	1.61	0.68	0.645	pCi/g
U-238	4	4	100	0.304	1.0	0.516	0.326	pCi/g
U-235	3	4	75	0.007	0.064	0.042	0.025	pCi/g
Aluminum	7	7	100	5,100	15,900	8,180	3,680	mg/kg
Antimony	0	7	0	3.7	4.1	3.85	0.129	mg/kg
Arsenic	7	7	100	3.4	7.7	5.6	1.84	mg/kg
Barium	7	7	100	86.7	225	160	49.7	mg/kg
Beryllium	7	7	100	0.33	0.79	0.506	0.154	mg/kg
Cadmium	4	7	57	0.33	1.10	0.601	0.281	mg/kg
Calcium	7	7	100	18,400	48,600	33,500	11,400	mg/kg
Chromium	7	7	100	15.8	24.5	18.5	3.24	mg/kg
Co-60	1	1	100	0.67	0.67	0.67	0.0	pCi/g
Cobalt	7	7	100	4.8	10.7	6.97	1.91	mg/kg
Copper	7	7	100	14.3	20.6	16.5	2.47	mg/kg
Iron	7	7	100	10,800	21,400	14,200	3,620	mg/kg
Lead	3	3	100	10.8	14.1	12.2	1.71	mg/kg
Magnesium	7	7	100	3,710	9,450	6,310	1,910	mg/kg
Manganese	7	7	100	156.0	497.0	285.0	109.0	mg/kg
Nickel	7	7	100	13.3	22.0	17.8	2.88	mg/kg
Potassium	7	7	100	1,010	2670	1,466	562	mg/kg

**Table C5-b.** (continued).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Selenium	0	7	0	0.15U	0.41U	NA	NA	mg/kg
Silver	0	7	0	0.65U	0.75U	NA	NA	mg/kg
Sodium	7	7	100	75.2	676.0	260.4	215.0	mg/kg
Thallium	0	7	0	0.13U	0.15U	NA	NA	mg/kg
Vanadium	7	7	100	24.2	37.3	2.73	4.8	mg/kg
Zinc	7	7	100	52.3	87.4	62.0	12.6	mg/kg
Cm-244	0	4	0	0.001U	0.008U	NA	NA	pCi/g
Mercury	1	7	14	0.025U	1.2	NA	NA	mg/kg
Pu-239/240	1	4	25	0.016U	0.034	NA	NA	pCi/g
Th-230	4	4	100	0.696	1.54	1.09	0.369	pCi/g

U = non detect; value represents 1/2 the detection limit.

NA = not applicable; not calculated

**Table C5-c. Summary Exposure Point Concentrations for BORAX-09 by Bin Depths.**

COPC	0-0.5	0-4	0-10
Cs-137	1.45E+00	1.81E-01	7.25E-02
Manganese	3.99E+02	4.99E+01	2.00E+01
Mercury	1.20E+00	1.50E-01	6.00E-02

EPC units are mg/kg or pCi/g; bin depths are in feet.

Table C6-a. Soil Contaminant Screening Process for BORAX Ecological Sampling (2000) Metals and Inorganics.

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC?		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration > background?	Nontoxic Metal?	Region 9/3 RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
Antimony	0.12	4.80E+00	No	No	3.13E+01	No	1.35E+00	No	No	No	No
Arsenic	8.9	5.80E+00	Yes	No	3.90E-01	Yes	8.44E-01	Yes	No <sup>b</sup>	No <sup>b</sup>	No <sup>b</sup>
Barium	249	3.00E+02	No	No	5.48E+03	No	1.10E+01	Yes	No	No	No
Beryllium	0.65	1.80E+00	No	No	1.56E+02	No	7.14E-01	No	No	No	No
Boron	8	1.73E+01 <sup>c</sup>	No	No	5.50E+03	No	5.00E-01	Yes	No	No	No
Cadmium	0.54	2.20E+00	No	No	3.70E+01	No	2.36E-03	Yes	No	No	No
Chromium	19.1	3.30E+01	No	No	2.10E+02	No	1.00E+00	Yes	No	No	No
Cobalt	7.6	1.10E+01	No	No	4.69E+03	No	4.27E-01	Yes	No	No	No
Copper	20.5	2.20E+01	No	No	2.90E+03	No	2.11E+00	Yes	No	No	No
Lead	15.4	1.70E+01	No	No	4.00E+02	No	9.94E-01	Yes	No	No	No
Manganese	458	4.90E+02	No	No	1.60E+03	No	1.05E+01	Yes	No	No	No
Molybdenum	0.9	NA	NA	No	3.91E+02	No	2.00E+00	No	No	No	No
Nickel	25.3	3.50E+01	No	No	1.56E+03	No	3.00E+01	No	No	No	No
Selenium	0.19	2.20E-01	No	No	3.91E+02	No	1.72E-01	Yes	No	No	No
Silver	0.19	ND	No	No	3.91E+02	No	2.00E+00	No	No	No	No
Strontium	138	NA	NA	No	4.69E+04	No	5.91E+00	Yes	No	Yes	No
Thallium	0.14	4.30E-01	No	No	5.48E+00	No	1.01E-01	Yes	No	No	No
Tin	2.2	NA	NA	No	4.69E+04	No	3.73E+00	No	No	No	No
Vanadium	27	4.50E+01	No	No	5.48E+02	No	1.49E+00	Yes	No	No	No
Zinc	69.9	1.50E+02	No	No	2.35E+04	No	3.29E+00	Yes	No	No	No

Source: WAG 10, OU 10-04 Database.

"NA" in Step 1 indicates that a background value is not available.

"No RBC" indicates that an EPA Region IX or X risk-based concentration based on residential soil ingestion is not available.

No EBSL" indicates that at INEEL EBSL is not available.

a. HHRA screening using 1/10<sup>th</sup> of the RBC (see Section C-1.4.1.3).

b. Arsenic was removed from the ERA & HHRA COPC lists because detected levels are within the arsenic regional background ranges discussed in Appendix K.

c. This is the maximum concentration for boron in the Reference Study Area (RSA).

Table C6-b. Soil Contaminant Screening Process for BORAX-02 Ecological Sampling (2000) Radionuclides Only.

Detected Contaminants	Max Source Concentration (mg/kg or pCi/g)	Step 1		Step 2	Step 3		Step 4		Site COPC?		
		INEEL Background Concentration (mg/kg or pCi/g)	Max Concentration > background?	Nontoxic Metal?	Region 9/3 RBC (mg/kg or pCi/g)	Max Concentration > RBC?	INEEL EBSL (mg/kg or pCi/g)	Max Concentration > EBSL?	HHRA	ERA	HHRA <sup>a</sup>
Am-241	3.26E-02	1.10E-02	Yes	No	2.90E+00	No	1.78E+01	No	No	No	No
Co-58	3.60E-02	NA	NA	No	NO RBC	No RBC	3.66E+03	No	No <sup>b</sup>	No	No <sup>b</sup>
Cs-137	3.14E+00	8.20E-01	Yes	No	2.30E-01	Yes	4.95E+03	No	Yes	No	Yes
K-40	2.03E+01	2.40E+01	No	No	5.70E-02	Yes	No EBSL	No EBSL	No	No	No
Ra-226	5.91E+00	NA	NA	No	5.50E-03	Yes	2.04E+01	No	No <sup>c</sup>	No	No <sup>c</sup>
Sr-90	1.24E+00	4.90E-01	Yes	No	2.30E+02	No	3.34E+03	No	No	No	No
Th-228	1.46E+00	1.60E+00	No	No	2.20E+15	No	1.81E+01	No	No	No	No
Th-230	1.52E+00	1.41E+00	Yes	No	2.10E+01	No	2.09E+01	No	No	No	No
Th-232	1.42E+00	1.60E+00	No	No	2.40E+01	No	2.43E+01	No	No	No	No
U-234	2.69E+00	1.44E+00	Yes	No	1.80E+01	No	2.05E+01	No	No	No	Yes <sup>d</sup>
U-235	2.44E-01	NA	NA	No	1.30E-01	Yes	2.27E+01	No	Yes	No	Yes
U-238	1.23E+00	1.40E+00	No	No	6.70E-01	Yes	2.32E+01	No	No	No	No

Source: WAG 10, OU 10-04 Database.

"NA" in Step 1 indicates that a background value is not available.

"No RBC" indicates that an EPA Region 9 or 3 risk-based concentration based on residential soil ingestion is not available.

"No EBSL" indicates that an INEEL EBSL is not available.

a. HHRA screening using 1/10<sup>th</sup> of the RBC (see Section C-1.4.1.3).

b. Co-58 was removed as a COPC due to its short half-life.

c. Ra-226 was eliminated from the COPC list for the HHRA because this radionuclide is within background levels. See the preliminary screening writeup for Ra-226 in Section 11.

d. U-234 was evaluated in the HHRA spreadsheets for this site, but the results confirmed that no additional risk was presented from this COPC. Total risk, from the external radiation exposure pathway, at BORAX-02 remained the same as presented in the original HHRA.

Table C6-c. Summary Statistics for the BORAX Ecological Sampling—Deer Mice (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Antimony	0	5	0	0.039	0.041	0.04	0.001	mg/kg
Arsenic	5	5	100	0.055	0.12	0.099	0.026	mg/kg
Barium	5	5	100	3.5	4.6	4.08	0.432	mg/kg
Beryllium	5	5	100	0.004	0.008	0.006	0.002	mg/kg
Cadmium	0	5	0	0.009	0.02	0.015	0.004	mg/kg
Chromium	5	5	100	0.38	0.57	0.488	0.08	mg/kg
Cobalt	5	5	100	0.06	0.093	0.074	0.014	mg/kg
Copper	5	5	100	2.8	3.1	2.96	0.114	mg/kg
Lead	5	5	100	0.13	0.82	0.384	0.296	mg/kg
Manganese	5	5	100	3.8	5.5	4.54	0.838	mg/kg
Nickel	5	5	100	0.79	1.2	0.958	0.183	mg/kg
Selenium	5	5	100	0.28	0.38	0.328	0.037	mg/kg
Silver	0	5	0	0.008	0.03	0.02	0.009	mg/kg
Thallium	0	5	0	0.035	0.037	0.036	0.001	mg/kg
Vanadium	5	5	100	0.16	0.28	0.214	0.05	mg/kg
Zinc	5	5	100	36.1	61.5	49.4	10.2	mg/kg
Mercury	0	5	0	0.003	0.006	0.004	0.001	mg/kg
Boron	3	5	60	0.41	1.5	0.906	0.477	mg/kg
Molybdenum	5	5	100	0.2	0.24	0.226	0.017	mg/kg
Strontium	5	5	100	3.3	4.9	4.08	0.638	mg/kg
Tin	0	5	0	0.013	1.35	0.28	0.598	mg/kg

Table C6-d. Summary Statistics for the BORAX Ecological Sampling—Kangaroo Rat (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Antimony	0	5	0	0.039	0.041	0.04	0.001	mg/kg
Arsenic	2	5	40	0.026	0.13	0.052	0.045	mg/kg
Barium	5	5	100	4.0	5.4	4.68	0.63	mg/kg
Beryllium	5	5	100	0.003	0.008	0.005	0.002	mg/kg
Cadmium	5	5	100	0.015	0.028	0.021	0.005	mg/kg
Chromium	5	5	100	0.37	0.65	0.502	0.127	mg/kg
Cobalt	4	5	80	0.026	0.1	0.064	0.031	mg/kg
Copper	1	5	20	1.2	2.3	1.45	0.477	mg/kg
Lead	5	5	100	0.14	0.23	0.186	0.036	mg/kg
Manganese	5	5	100	2.6	5.1	3.72	1.08	mg/kg
Nickel	5	5	100	0.52	1.5	0.83	0.385	mg/kg
Selenium	5	5	100	0.18	0.27	0.238	0.037	mg/kg
Silver	0	5	0	0.017	0.036	0.028	0.007	mg/kg
Thallium	1	5	20	0.035	0.12	0.053	0.038	mg/kg
Vanadium	4	5	80	0.075	0.32	0.203	0.107	mg/kg
Zinc	5	5	100	45.9	107.0	79.0	22.5	mg/kg
Mercury	0	5	0	0.003	0.007	0.006	0.001	mg/kg
Boron	5	5	100	0.39	0.86	0.518	0.194	mg/kg
Molybdenum	5	5	100	0.086	0.12	0.1	0.014	mg/kg
Strontium	5	5	100	12.4	16.0	13.9	1.63	mg/kg
Tin	0	5	0	0.013	0.013	NA	NA	mg/kg

Table C6-e. Summary Statistics for the BORAX Ecological Sampling—Cottontail Rabbit (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Arsenic	4	5	80	0.026	0.088	0.065	0.025	mg/kg
Barium	0	5	0	2.4	3.7	3.15	0.497	mg/kg
Beryllium	5	5	100	0.001	0.002	NA	NA	mg/kg
Cadmium	0	5	0	0.005	0.025	0.011	0.008	mg/kg
Chromium	0	5	0	0.004	0.08	0.051	0.029	mg/kg
Cobalt	0	5	0	0.02	0.042	0.029	0.009	mg/kg
Copper	5	5	100	2.3	2.8	2.52	0.228	mg/kg
Lead	1	5	20	0.026	0.076	0.038	0.021	mg/kg
Manganese	5	5	100	3.2	4.3	3.64	0.439	mg/kg
Nickel	5	5	100	0.16	0.22	0.19	0.024	mg/kg
Selenium	5	5	100	0.17	0.23	0.196	0.027	mg/kg
Silver	5	5	100	0.034	0.06	0.043	0.01	mg/kg
Thallium	5	5	100	0.097	0.16	0.125	0.024	mg/kg
Vanadium	4	5	80	0.014	0.082	0.051	0.025	mg/kg
Zinc	5	5	100	29.7	42.8	35.1	5.01	mg/kg
Mercury	0	5	0	0.003	0.003	NA	NA	mg/kg
Boron	5	5	100	0.48	0.73	0.562	0.111	mg/kg
Molybdenum	0	5	0	0.055	0.105	0.08	0.018	mg/kg
Strontium	5	5	100	9.2	14.8	11.8	2.36	mg/kg
Tin	0	5	0	0.013	4.4	1.13	1.9	mg/kg

Table C6-f. Summary Statistics for the BORAX Ecological Sampling—Sagebrush (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Antimony	1	5	20	0.005	0.011	0.006	0.003	mg/kg
Arsenic	5	5	100	0.031	0.051	0.043	0.009	mg/kg
Barium	5	5	100	4.37	5.64	5.13	0.491	mg/kg
Beryllium	0	5	0	0.003	0.003	NA	NA	mg/kg
Cadmium	5	5	100	0.03	0.173	0.067	0.06	mg/kg
Chromium	5	5	100	0.168	0.312	0.221	0.059	mg/kg
Cobalt	1	5	20	0.065	0.239	0.1	0.078	mg/kg
Copper	5	5	100	3.49	5.7	4.43	0.887	mg/kg
Lead	5	5	100	0.082	0.151	0.108	0.028	mg/kg
Manganese	5	5	100	9.9	15.1	12.0	2.19	mg/kg
Nickel	0	5	0	0.124	0.125	NA	NA	mg/kg
Selenium	5	5	100	0.032	0.051	0.043	0.01	mg/kg
Silver	5	5	100	0.006	0.02	0.011	0.006	mg/kg
Thallium	5	5	100	0.002	0.018	0.008	0.006	mg/kg
Vanadium	5	5	100	0.108	0.224	0.148	0.049	mg/kg
Zinc	5	5	100	6.6	9.5	7.36	1.23	mg/kg
Mercury	5	5	100	0.001	0.001	NA	NA	mg/kg
Boron	5	5	100	8.06	10.2	8.98	0.786	mg/kg
Molybdenum	5	5	100	0.245	0.389	0.326	0.059	mg/kg
Strontium	5	5	100	7.86	13.0	10.6	1.84	mg/kg
Tin	0	5	0	1.05	1.25	1.14	0.089	mg/kg

Table C6-g. Summary Statistics for the BORAX Ecological Sampling—Subsurface Soils (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Antimony	5	5	100	0.06	0.09	0.074	0.013	mg/kg
Arsenic	5	5	100	6.2	8.9	7.56	1.1	mg/kg
Barium	5	5	100	126	249	217	51.6	mg/kg
Beryllium	5	5	100	0.43	0.61	0.536	0.078	mg/kg
Cadmium	5	5	100	0.28	0.39	0.312	0.047	mg/kg
Chromium	5	5	100	14.9	19.1	17.1	1.58	mg/kg
Cobalt	5	5	100	4.8	7.6	6.72	1.11	mg/kg
Copper	5	5	100	14.	19.2	16.6	2.24	mg/kg
Lead	5	5	100	9.3	14.6	12.3	1.96	mg/kg
Manganese	5	5	100	199	392	338	78.9	mg/kg
Nickel	5	5	100	18.5	25.3	20.8	2.77	mg/kg
Selenium	4	6	67	0.045	0.225	0.123	0.066	mg/kg
Silver	5	6	83	0.08	0.225	0.156	0.047	mg/kg
Thallium	5	6	83	0.1	0.445	0.173	0.134	mg/kg
Vanadium	5	5	100	21.4	27.0	24.5	2.17	mg/kg
Zinc	5	5	100	51.1	61.7	57.7	4.02	mg/kg
Mercury	0	5	0	0.035	0.05	0.043	0.006	mg/kg
Boron	5	5	100	2.8	8.0	5.08	2.01	mg/kg
Molybdenum	5	5	100	0.54	0.9	0.66	0.141	mg/kg
Strontium	5	5	100	56.2	138	85.4	32.7	mg/kg
Tin	1	5	20	1.0	2.2	1.33	0.492	mg/kg

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Table C6-h. Summary Statistics for the BORAX Ecological Sampling—Surface Soils (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Antimony	5	5	100	0.06	0.12	0.074	0.026	mg/kg
Arsenic	5	5	100	6.1	6.8	6.47	0.307	mg/kg
Barium	5	5	100	133.0	240	204	439	mg/kg
Beryllium	5	5	100	0.41	0.65	0.55	0.099	mg/kg
Cadmium	5	5	100	0.27	0.54	0.39	0.1	mg/kg
Chromium	5	5	100	15.7	18.3	16.8	1.15	mg/kg
Cobalt	5	5	100	5.1	7.4	6.71	0.94	mg/kg
Copper	5	5	100	15.7	20.5	18.1	1.96	mg/kg
Lead	5	5	100	9.5	15.2	13.1	2.33	mg/kg
Manganese	5	5	100	223.0	458.0	364.0	92.6	mg/kg
Nickel	5	5	100	18.8	21.7	20.5	1.22	mg/kg
Selenium	5	5	100	0.08	0.18	0.152	0.041	mg/kg
Silver	5	5	100	0.13	0.19	0.147	0.025	mg/kg
Thallium	5	5	100	0.1	0.13	0.11	0.012	mg/kg
Vanadium	5	5	100	21.0	25.1	22.4	1.62	mg/kg
Zinc	5	5	100	60.5	69.9	66.5	4.28	mg/kg
Mercury	0	5	0	0.035	0.05	0.042	0.006	mg/kg
Boron	5	5	100	3.8	5.6	4.7	0.735	mg/kg
Molybdenum	5	5	100	0.45	0.89	0.622	0.166	mg/kg
Strontium	5	5	100	32.1	92.6	55.4	24.5	mg/kg
Tin	0	5	0	1.05	1.2	1.12	0.057	mg/kg

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Table C6-i. Summary Statistics for the BORAX Ecological Sampling—Deer Mice (Radionuclides) (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Am-241	0	7	0	1.39E-04	4.50E-01	6.80E-02	1.69E-01	pCi/g
Cs-137	0	2	0	1.50E-02	3.00E-02	2.25E-02	1.06E-02	pCi/g
Pu-238	0	3	0	3.75E-06	1.14E-04	4.28E-05	6.13E-05	pCi/g
Pu-239	0	3	0	1.00E+03	3.50E+03	2.33E+03	1.26E+03	pCi/g
Sr-90	2	5	40	1.10E-02	3.60E-02	2.05E-02	1.27E-02	pCi/g
Th-228	5	9	56	7.05E-03	2.50E+00	7.82E-01	1.09E+00	pCi/g
Th-232	5	5	100	7.32E-03	1.23E-02	9.50E-03	2.22E-03	pCi/g
U-234	5	7	71	6.02E-03	4.00E+02	7.14E+01	1.50E+02	pCi/g
U-238	5	5	100	6.02E-03	1.06E-02	7.95E-03	1.67E-03	pCi/g
U-235	1	8	13	7.45E-05	2.00E-01	6.28E-02	9.14E-02	pCi/g
Co-60	0	2	0	5.00E-02	6.50E-02	5.75E-02	1.06E-02	pCi/g
Ag-108m	0	2	0	1.50E-02	2.50E-02	2.00E-02	7.07E-03	pCi/g
Ag-110m	0	1	0	3.50E-02	3.50E-02	NA	NA	pCi/g
Alpha	0	4	0	1.00E-03	4.00E-02	1.43E-02	1.84E-02	pCi/g
Beta	1	5	20	1.24E+00	3.49E+00	1.74E+00	9.83E-01	pCi/g
Ce-144	0	2	0	1.00E-01	1.00E-01	1.00E-01	0.00E+00	pCi/g
Co-58	0	3	0	2.00E-02	5.00E-02	3.67E-02	1.53E-02	pCi/g
Cs-134	0	3	0	1.50E-02	5.00E-02	3.33E-02	1.76E-02	pCi/g
Eu-152	0	2	0	5.00E-02	1.50E-01	1.00E-01	7.07E-02	pCi/g
Eu-154	0	3	0	3.00E-02	2.00E-01	1.10E-01	8.54E-02	pCi/g
Eu-155	0	1	0	2.50E-02	2.50E-02	NA	NA	pCi/g
K-40	0	1	0	5.00E-01	5.00E-01	NA	NA	pCi/g
Mn-54	0	3	0	2.00E-02	3.50E-02	2.67E-02	7.64E-03	pCi/g
Nb-95	0	2	0	4.50E-02	1.50E-01	9.75E-02	7.42E-02	pCi/g
Pu-239/240	0	5	0	1.07E-04	4.30E-04	2.06E-04	1.28E-04	pCi/g
Ra-226	0	5	0	5.00E-02	7.00E-01	3.60E-01	2.61E-01	pCi/g
Ru-103	0	2	0	2.00E-02	1.00E-01	6.00E-02	5.66E-02	pCi/g
Ru-106	0	2	0	3.00E-01	4.50E-01	3.75E-01	1.06E-01	pCi/g
Sb-125	0	1	0	1.50E-01	1.50E-01	NA	NA	pCi/g
Th-230	5	5	100	7.52E-03	1.29E-02	9.31E-03	2.29E-03	pCi/g
Zn-65	0	5	0	2.50E-02	2.50E-01	1.11E-01	8.79E-02	pCi/g
Zr-95	0	4	0	1.00E-01	4.00E-01	1.88E-01	1.44E-01	pCi/g

Table C6-j. Summary Statistics for the BORAX Ecological Sampling—Kangaroo Rat (Radionuclides) (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Am-241	0	7	0	5.30E-05	2.00E-01	3.01E-02	7.50E-02	pCi/g
Cs-137	1	4	25	1.00E-02	4.50E-01	1.64E-01	1.97E-01	pCi/g
Pu-238	0	3	0	2.24E-05	6.20E-05	4.78E-05	2.20E-05	pCi/g
Pu-239	0	3	0	1.50E+03	3.50E+03	2.50E+03	1.00E+03	pCi/g
Sr-90	5	5	100	3.59E-02	9.21E-01	2.80E-01	3.67E-01	pCi/g
Th-228	5	6	83	4.05E-03	5.00E-01	8.90E-02	2.01E-01	pCi/g
Th-232	5	5	100	4.29E-03	8.55E-03	6.42E-03	1.71E-03	pCi/g
U-234	5	7	71	7.50E-03	1.50E+02	2.43E+01	5.59E+01	pCi/g
U-238	5	5	100	3.37E-03	1.34E-02	6.29E-03	4.14E-03	pCi/g
U-235	1	7	14	1.72E-04	3.00E-01	7.96E-02	1.34E-01	pCi/g
Co-60	0	2	0	2.00E-02	3.00E-02	2.50E-02	7.07E-03	pCi/g
Ag-108m	0	3	0	1.00E-02	6.00E-02	3.83E-02	2.57E-02	pCi/g
Ag-110m	0	2	0	1.50E-02	2.50E-02	2.00E-02	7.07E-03	pCi/g
Alpha	0	1	0	1.05E-01	1.05E-01	NA	NA	pCi/g
Beta	2	5	40	1.20E+00	4.92E+00	2.03E+00	1.62E+00	pCi/g
Ce-144	0	4	0	5.00E-02	4.00E-01	2.00E-01	1.47E-01	pCi/g
Co-58	0	4	0	5.00E-02	1.10E-01	7.63E-02	2.87E-02	pCi/g
Cs-134	0	3	0	1.50E-02	1.15E-01	5.67E-02	5.20E-02	pCi/g
Eu-152	0	3	0	8.00E-02	2.00E-01	1.43E-01	6.03E-02	pCi/g
Eu-154	0	2	0	1.50E-01	2.50E-01	2.00E-01	7.07E-02	pCi/g
Eu-155	0	4	0	3.00E-02	1.35E-01	7.50E-02	4.60E-02	pCi/g
K-40	0	5	0	4.00E-01	4.50E+00	2.48E+00	1.90E+00	pCi/g
Mn-54	0	3	0	1.00E-02	9.00E-02	5.33E-02	4.04E-02	pCi/g
Nb-95	0	3	0	1.00E-02	1.60E-01	6.83E-02	8.04E-02	pCi/g
Pu-239/240	0	5	0	2.07E-05	1.98E-04	1.16E-04	8.54E-05	pCi/g
Ra-226	0	3	0	1.50E-01	1.00E+00	5.67E-01	4.25E-01	pCi/g
Ru-103	0	1	0	6.50E-02	6.50E-02	NA	NA	pCi/g
Ru-106	0	2	0	2.00E-01	6.00E-01	4.00E-01	2.83E-01	pCi/g
Sb-125	0	2	0	3.50E-02	4.00E-02	3.75E-02	3.54E-03	pCi/g
Th-230	5	5	100	3.87E-03	1.25E-02	7.88E-03	3.13E-03	pCi/g
Zn-65	0	4	0	1.00E-02	2.50E-01	1.03E-01	1.14E-01	pCi/g
Zr-95	0	3	0	2.50E-02	1.50E-01	7.50E-02	6.61E-02	pCi/g

Table C6-k. Summary Statistics for the BORAX Ecological Sampling—Cottontail Rabbit (Radionuclides) (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Am-241	0	8	0	7.80E-05	3.00E-02	7.62E-03	1.16E-02	pCi/g
Cs-137	2	4	50	6.50E-03	6.00E-02	2.71E-02	2.35E-02	pCi/g
Pu-238	0	5	0	2.03E-05	1.19E-04	5.17E-05	4.04E-05	pCi/g
Pu-239	0	3	0	3.50E+01	2.50E+02	1.78E+02	1.24E+02	pCi/g
Sr-90	5	5	100	1.93E-01	7.11E-01	4.60E-01	2.28E-01	pCi/g
Th-228	5	6	83	1.66E-03	3.50E-02	8.10E-03	1.33E-02	pCi/g
Th-232	5	5	100	8.53E-04	2.77E-03	1.85E-03	7.25E-04	pCi/g
U-234	5	8	63	2.53E-03	2.00E+01	4.38E+00	7.29E+00	pCi/g
U-238	4	5	80	4.22E-04	2.16E-03	1.21E-03	6.31E-04	pCi/g
U-235	0	8	0	3.37E-05	3.50E-02	1.01E-02	1.28E-02	pCi/g
Co-60	0	2	0	4.00E-03	7.00E-03	5.50E-03	2.12E-03	pCi/g
Ag-108m	0	1	0	2.00E-03	2.00E-03	NA	NA	pCi/g
Ag-110m	0	3	0	1.50E-03	8.00E-03	4.50E-03	3.28E-03	pCi/g
Beta	5	5	100	3.44E+00	4.61E+00	3.77E+00	4.81E-01	pCi/g
Ce-144	0	1	0	5.00E-03	5.00E-03	NA	NA	pCi/g
Co-58	0	3	0	5.00E-03	1.40E-02	8.00E-03	5.20E-03	pCi/g
Cs-134	0	4	0	6.50E-03	1.10E-02	7.75E-03	2.18E-03	pCi/g
Eu-152	0	1	0	1.00E-02	1.00E-02	NA	NA	pCi/g
Eu-154	0	3	0	1.00E-02	1.50E-02	1.33E-02	2.89E-03	pCi/g
Eu-155	0	5	0	5.00E-04	1.50E-02	9.10E-03	5.46E-03	pCi/g
K-40	0	5	0	1.25E+00	1.70E+00	1.44E+00	1.98E-01	pCi/g
Mn-54	0	4	0	6.00E-03	1.00E-02	7.75E-03	2.06E-03	pCi/g
Nb-95	0	2	0	4.50E-03	5.00E-03	4.75E-03	3.54E-04	pCi/g
Pu-239/240	0	5	0	2.03E-05	1.41E-04	6.45E-05	4.61E-05	pCi/g
Ra-226	0	1	0	2.00E-02	2.00E-02	NA	NA	pCi/g
Ru-103	0	3	0	2.00E-03	3.00E-03	2.67E-03	5.77E-04	pCi/g
Ru-106	0	4	0	1.00E-02	6.50E-02	4.38E-02	2.39E-02	pCi/g
Sb-125	0	3	0	4.00E-03	1.00E-02	6.17E-03	3.33E-03	pCi/g
Th-230	5	5	100	1.36E-03	2.15E-03	1.90E-03	3.48E-04	pCi/g
Zn-65	0	1	0	5.00E-03	5.00E-03	NA	NA	pCi/g
Zr-95	0	3	0	4.00E-03	1.00E-02	6.17E-03	3.33E-03	pCi/g

Table C6-I. Summary Statistics for the BORAX Ecological Sampling—Sagebrush (Radionuclides) (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Am-241	2	6	33	1.39E-03	3.97E-01	7.75E-02	1.57E-01	pCi/g
Cs-137	1	2	50	1.47E-02	3.63E-01	1.89E-01	2.46E-01	pCi/g
Pu-238	0	4	0	8.25E-04	4.58E-03	2.67E-03	1.54E-03	pCi/g
Pu-239	0	3	0	2.18E-04	1.75E-03	9.66E-04	7.64E-04	pCi/g
Sr-90	3	5	60	8.05E-02	3.98E+00	1.20E+00	1.66E+00	pCi/g
Th-228	2	5	40	6.55E-04	1.94E-02	9.20E-03	6.89E-03	pCi/g
Th-232	4	5	80	3.81E-03	2.68E-02	1.45E-02	8.22E-03	pCi/g
U-234	4	5	80	4.94E-03	6.15E-01	1.40E-01	2.66E-01	pCi/g
U-238	3	5	60	1.94E-03	1.77E-02	1.14E-02	7.40E-03	pCi/g
U-235	2	6	33	5.90E-04	8.75E-02	2.07E-02	3.33E-02	pCi/g
Co-60	0	2	0	3.10E-02	6.80E-02	4.95E-02	2.62E-02	pCi/g
Ag-110m	0	3	0	2.03E-03	2.38E-02	1.49E-02	1.14E-02	pCi/g
Co-58	0	2	0	6.85E-02	7.20E-02	7.03E-02	2.47E-03	pCi/g
Cs-134	0	3	0	1.75E-02	3.62E-02	2.46E-02	1.02E-02	pCi/g
Eu-152	0	3	0	4.88E-03	6.43E-02	4.30E-02	3.31E-02	pCi/g
Eu-154	0	2	0	9.55E-03	1.61E-02	1.28E-02	4.63E-03	pCi/g
Eu-155	0	3	0	1.81E-02	7.95E-02	4.87E-02	3.07E-02	pCi/g
K-40	5	5	100	6.24E+00	1.58E+01	1.15E+01	3.63E+00	pCi/g
Mn-54	0	2	0	8.85E-03	2.17E-02	1.53E-02	9.05E-03	pCi/g
Nb-95	0	1	0	2.76E-02	2.76E-02	NA	NA	pCi/g
Ra-226	1	3	33	4.01E-01	6.29E+00	2.47E+00	3.31E+00	pCi/g
Ru-103	0	3	0	3.95E-03	8.25E-02	4.75E-02	4.00E-02	pCi/g
Ru-106	0	3	0	1.84E-01	4.12E-01	2.81E-01	1.18E-01	pCi/g
Sb-125	0	2	0	2.53E-02	6.60E-02	4.56E-02	2.88E-02	pCi/g
Th-230	5	5	100	4.62E-02	6.70E-02	5.85E-02	7.58E-03	pCi/g
Zn-65	0	4	0	8.15E-03	2.66E-02	1.83E-02	9.61E-03	pCi/g
Zr-95	0	3	0	3.85E-02	1.10E-01	7.97E-02	3.68E-02	pCi/g

Table C6-m. Summary Statistics for the BORAX Ecological Sampling—Subsurface Soil (Radionuclides) (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Am-241	2	6	33	1.97E-03	2.80E-02	1.35E-02	9.68E-03	pCi/g
Cs-137	3	5	60	8.30E-03	1.39E+00	4.02E-01	5.79E-01	pCi/g
Pu-238	0	5	0	6.10E-04	2.11E-03	1.38E-03	7.00E-04	pCi/g
Pu-239	0	5	0	6.55E-04	3.89E-03	2.86E-03	1.29E-03	pCi/g
Sr-90	1	5	20	1.26E-02	9.08E-01	2.12E-01	3.90E-01	pCi/g
Th-228	5	5	100	1.26E+00	1.42E+00	1.32E+00	6.32E-02	pCi/g
Th-232	5	5	100	1.19E+00	1.42E+00	1.29E+00	9.14E-02	pCi/g
U-234	5	5	100	9.55E-01	2.69E+00	1.58E+00	7.17E-01	pCi/g
U-238	5	5	100	9.37E-01	1.23E+00	1.04E+00	1.13E-01	pCi/g
U-235	5	5	100	6.22E-02	2.44E-01	1.31E-01	6.76E-02	pCi/g
Co-60	0	1	0	2.32E-03	2.32E-03	NA	NA	pCi/g
Ag-108m	0	1	0	3.64E-04	3.64E-04	NA	NA	pCi/g
Ag-110m	0	1	0	6.50E-03	6.50E-03	NA	NA	pCi/g
Ce-144	0	2	0	4.68E-03	7.00E-02	3.73E-02	4.62E-02	pCi/g
Co-58	0	2	0	5.90E-03	9.70E-03	7.80E-03	2.69E-03	pCi/g
Cs-134	0	1	0	8.75E-03	8.75E-03	NA	NA	pCi/g
Eu-152	0	1	0	2.04E-02	2.04E-02	NA	NA	pCi/g
Eu-154	0	3	0	4.01E-03	1.22E-02	7.97E-03	4.07E-03	pCi/g
Eu-155	0	5	0	7.05E-03	8.65E-02	3.48E-02	3.08E-02	pCi/g
I-131	0	2	0	3.58E-02	8.00E-02	5.79E-02	3.13E-02	pCi/g
K-40	5	5	100	1.37E+01	1.82E+01	1.63E+01	1.75E+00	pCi/g
Mn-54	0	2	0	5.95E-04	5.75E-03	3.17E-03	3.65E-03	pCi/g
Nb-95	0	1	0	1.45E-01	1.45E-01	NA	NA	pCi/g
Ra-226	3	4	75	8.90E-01	4.86E+00	2.90E+00	1.66E+00	pCi/g
Ru-103	0	4	0	5.70E-04	1.06E-02	5.57E-03	4.19E-03	pCi/g
Ru-106	0	2	0	6.00E-03	4.40E-02	2.50E-02	2.68E-02	pCi/g
Sb-125	0	1	0	1.13E-02	1.13E-02	NA	NA	pCi/g
Th-230	5	5	100	1.24E+00	1.52E+00	1.32E+00	1.17E-01	pCi/g
Zn-65	0	2	0	6.00E-03	7.05E-03	6.53E-03	7.42E-04	pCi/g
Zr-95	0	1	0	2.21E-03	2.21E-03	NA	NA	pCi/g

Table C6-n. Summary Statistics for the BORAX Ecological Sampling—Surface Soil (Radionuclides) (2000).

Analyte	Number of Detects	Number of Samples	% Detects	Minimum	Maximum	Average	Std. Deviation	Units
Am-241	3	8	38	4.95E-03	2.77E-01	6.25E-02	9.75E-02	pCi/g
Cs-137	5	5	100	3.93E-01	3.14E+00	1.18E+00	1.12E+00	pCi/g
Pu-238	0	2	0	1.69E-03	2.70E-03	2.19E-03	7.18E-04	pCi/g
Pu-239	0	5	0	3.07E-03	5.85E-03	4.33E-03	1.34E-03	pCi/g
Sr-90	4	5	80	9.00E-02	1.24E+00	6.15E-01	4.93E-01	pCi/g
Th-228	5	5	100	1.28E+00	1.46E+00	1.36E+00	8.05E-02	pCi/g
Th-232	5	5	100	1.21E+00	1.39E+00	1.32E+00	7.56E-02	pCi/g
U-234	5	5	100	1.03E+00	1.66E+00	1.27E+00	2.65E-01	pCi/g
U-238	5	5	100	9.90E-01	1.12E+00	1.05E+00	4.69E-02	pCi/g
U-235	5	8	63	1.38E-02	1.39E-01	8.27E-02	4.98E-02	pCi/g
Co-60	0	2	0	8.85E-04	1.41E-02	7.47E-03	9.31E-03	pCi/g
Ag-108m	0	2	0	2.27E-03	7.40E-03	4.84E-03	3.63E-03	pCi/g
Ag-110m	0	3	0	2.78E-04	1.79E-03	9.26E-04	7.76E-04	pCi/g
Ce-144	0	2	0	4.03E-02	4.61E-02	4.32E-02	4.07E-03	pCi/g
Co-58	1	4	25	1.22E-03	3.60E-02	1.39E-02	1.61E-02	pCi/g
Cs-134	0	2	0	5.95E-03	9.75E-03	7.85E-03	2.69E-03	pCi/g
Eu-152	0	3	0	3.82E-03	2.09E-02	1.15E-02	8.65E-03	pCi/g
Eu-154	0	4	0	3.10E-03	1.06E-02	6.51E-03	3.09E-03	pCi/g
Eu-155	0	3	0	2.47E-02	3.29E-02	2.75E-02	4.66E-03	pCi/g
I-131	0	3	0	1.19E-02	9.30E-02	5.63E-02	4.11E-02	pCi/g
K-40	5	5	100	1.66E+01	2.03E+01	1.81E+01	1.41E+00	pCi/g
Mn-54	0	3	0	7.70E-04	6.95E-03	3.80E-03	3.09E-03	pCi/g
Nb-95	0	2	0	1.20E-03	1.89E-03	1.54E-03	4.84E-04	pCi/g
Ra-226	5	5	100	2.81E+00	5.91E+00	3.95E+00	1.24E+00	pCi/g
Ru-103	0	3	0	2.95E-03	4.01E-03	3.46E-03	5.31E-04	pCi/g
Ru-106	0	2	0	1.51E-02	5.75E-02	3.63E-02	3.00E-02	pCi/g
Sb-125	0	3	0	9.10E-03	2.16E-02	1.37E-02	6.84E-03	pCi/g
Th-230	5	5	100	1.27E+00	1.45E+00	1.38E+00	7.40E-02	pCi/g
Zn-65	0	3	0	4.15E-03	2.77E-02	1.44E-02	1.21E-02	pCi/g
Zr-95	0	3	0	1.28E-03	3.38E-02	1.91E-02	1.65E-02	pCi/g

Table C6-o. Summary Exposure Point Concentrations for BORAX-02 Ecological Sampling (2000) by Bin Depths.

COPC	0-0.5	0-4	0-10
Strontium	9.26E+01	1.30E+02	NA

EPC units are mg/kg or pCi/g; bin depths are in feet.

NA – Not applicable, no samples were taken at this soil depth.

Table C6-p. Summary Exposure Point Concentrations for BORAX-02 Ecological Sampling (2000) (radionuclides only) by Bin Depths.

COPC	0-0.5	0-4	0-10
Cs-137	3.14E+00	1.61E+00	NA
U-235	1.39E-01	2.31E-01	NA

EPC units are mg/kg or pCi/g; bin depths are in feet.

NA – Not applicable, no samples were taken at this soil depth.